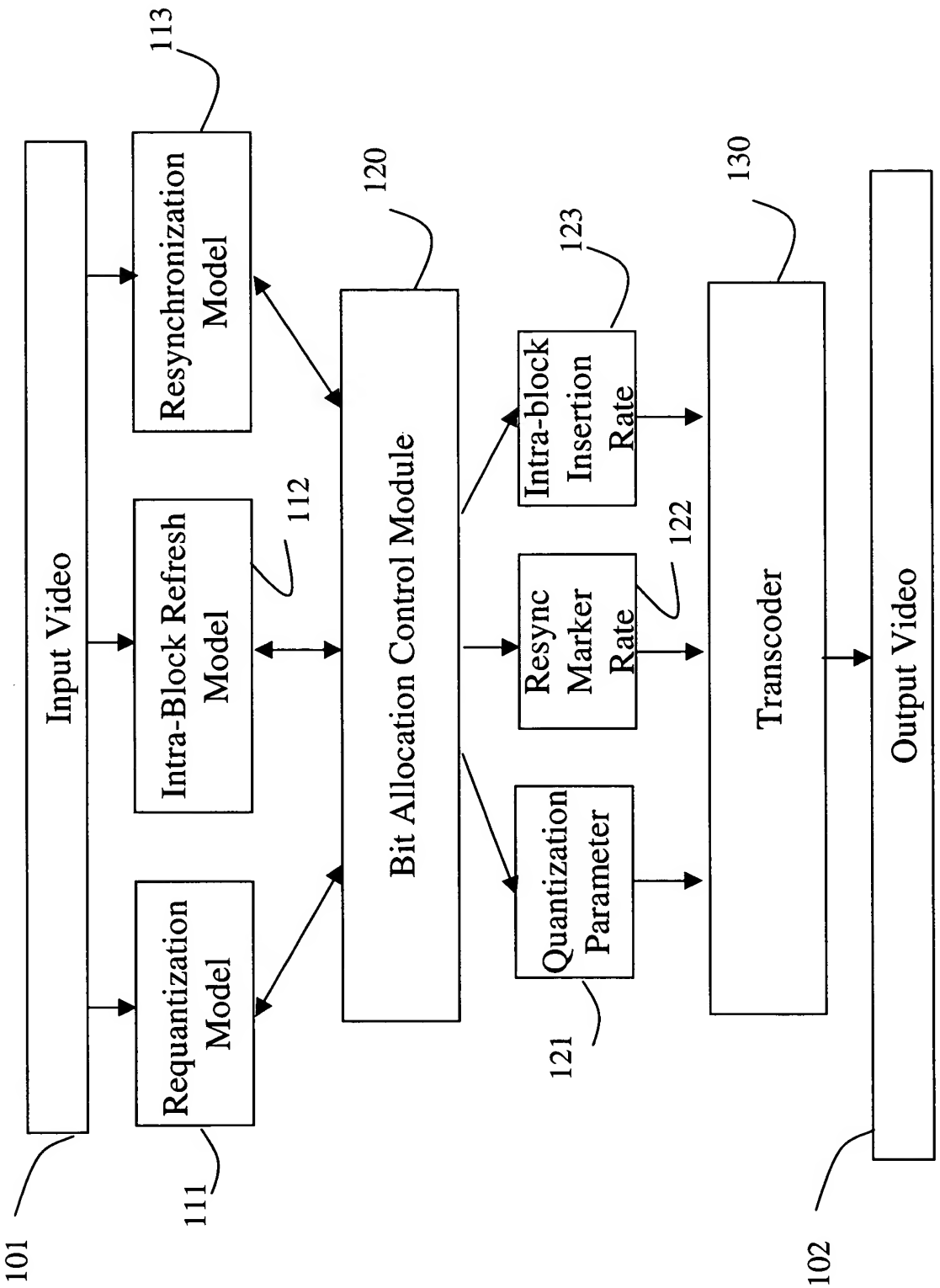

Input Video
Resynchronization Model
Intra-Block Refresh Model
Requantization Model
Bit Allocation Control Module
Intra-block Insertion Rate
Resync Marker Rate
Quantization Parameter
Transcoder
Output Video
101
102
111
112
113
120
121
122
123
130

100

FIG. 1

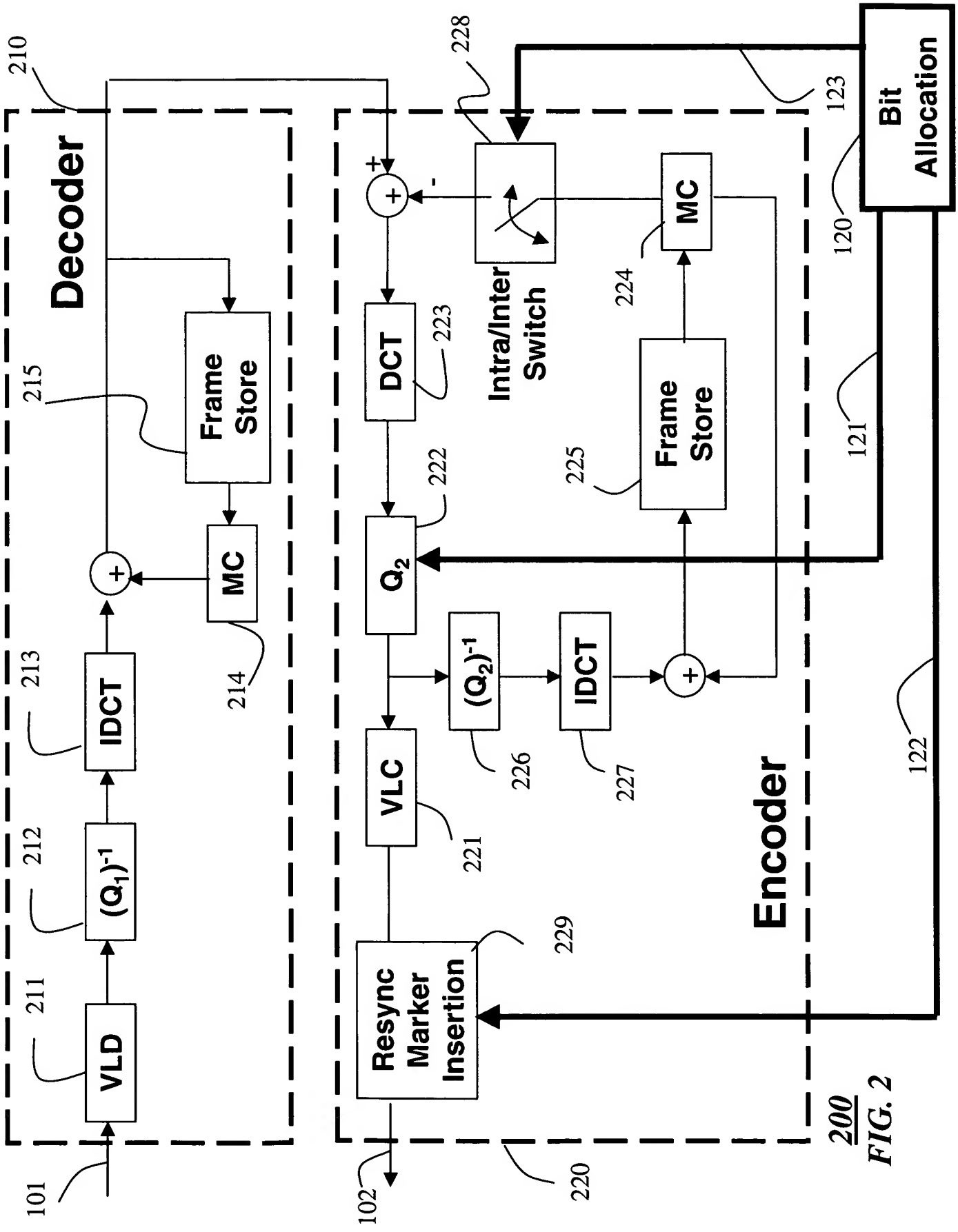
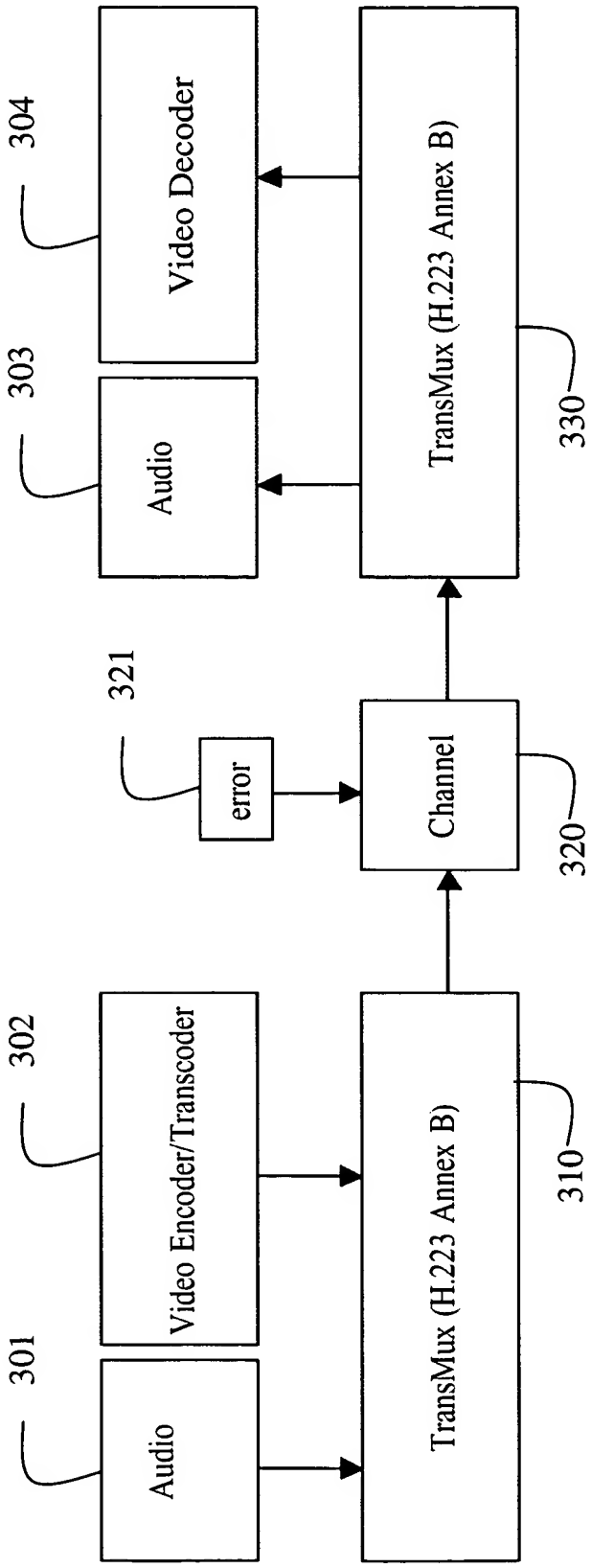

Decoder
Encoder
VLD
IDCT
MC
DCT
VLC
Frame Store
Intra/Inter Switch
Bit Allocation
Resync Marker Insertion
$(Q_1)^{-1}$
$(Q_2)^{-1}$
Q_2
101
102
120
121
122
123
210
211
212
213
214
215
220
221
222
223
224
225
226
227
228
229

FIG. 2 **200**


301
Audio
302
Video Encoder/Transcoder
310
TransMux (H.223 Annex B)
321
error
320
Channel
303
Audio
304
Video Decoder
330
TransMux (H.223 Annex B)

300
FIG. 3

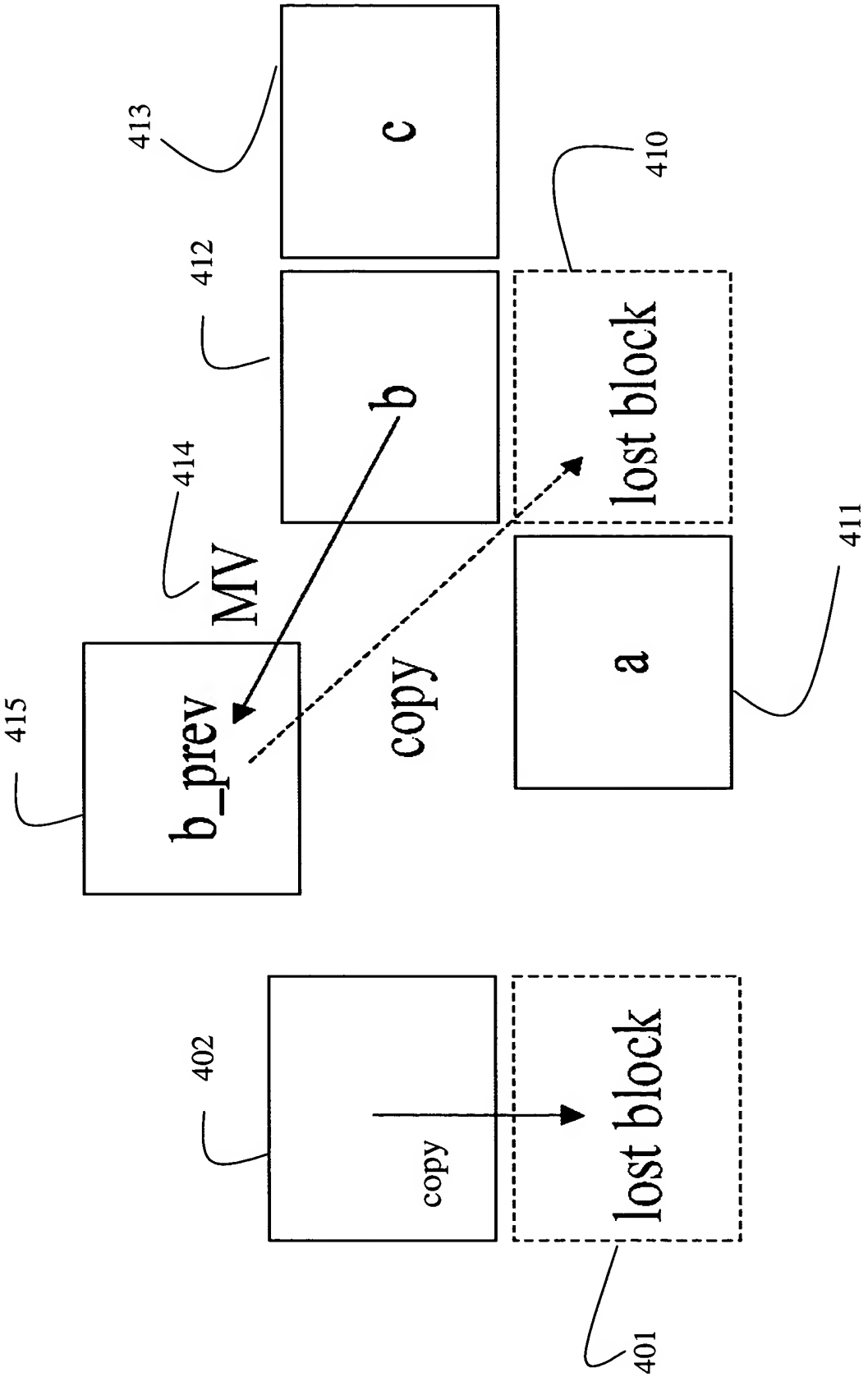

413
c
410
412
b
lost block
414
MV
411
415
b_prev
copy
a
402
copy
lost block
401

FIG. 4

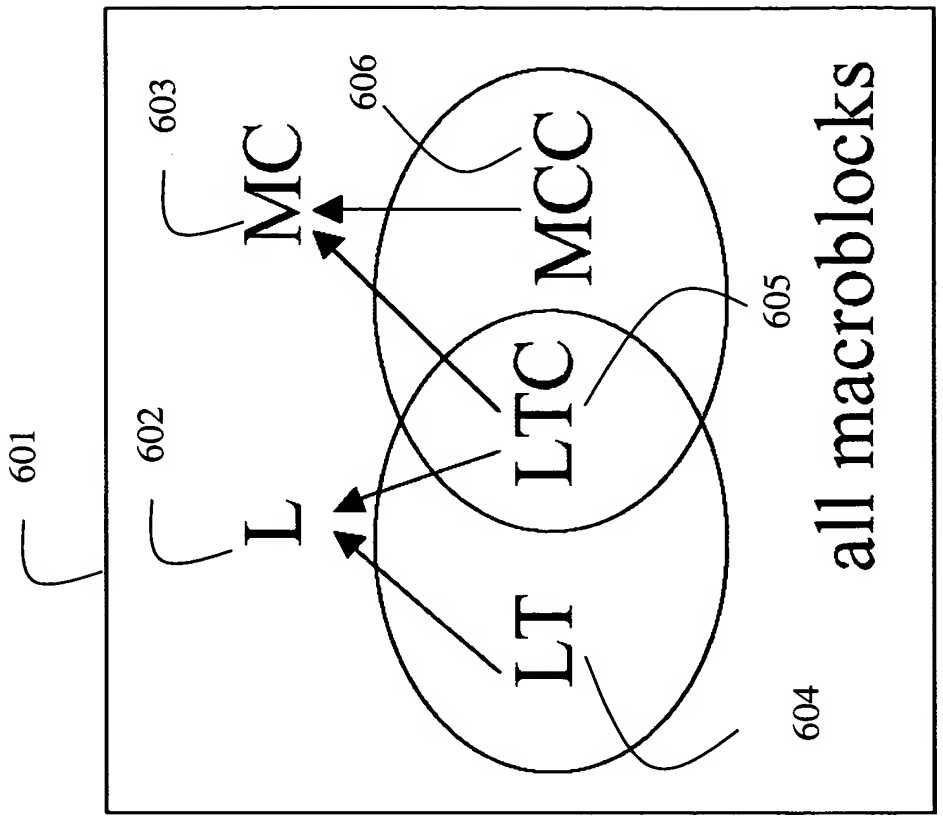

601
602
603
606
605
604
L
MC
LTC
MCC
LT
all macroblocks

FIG. 6

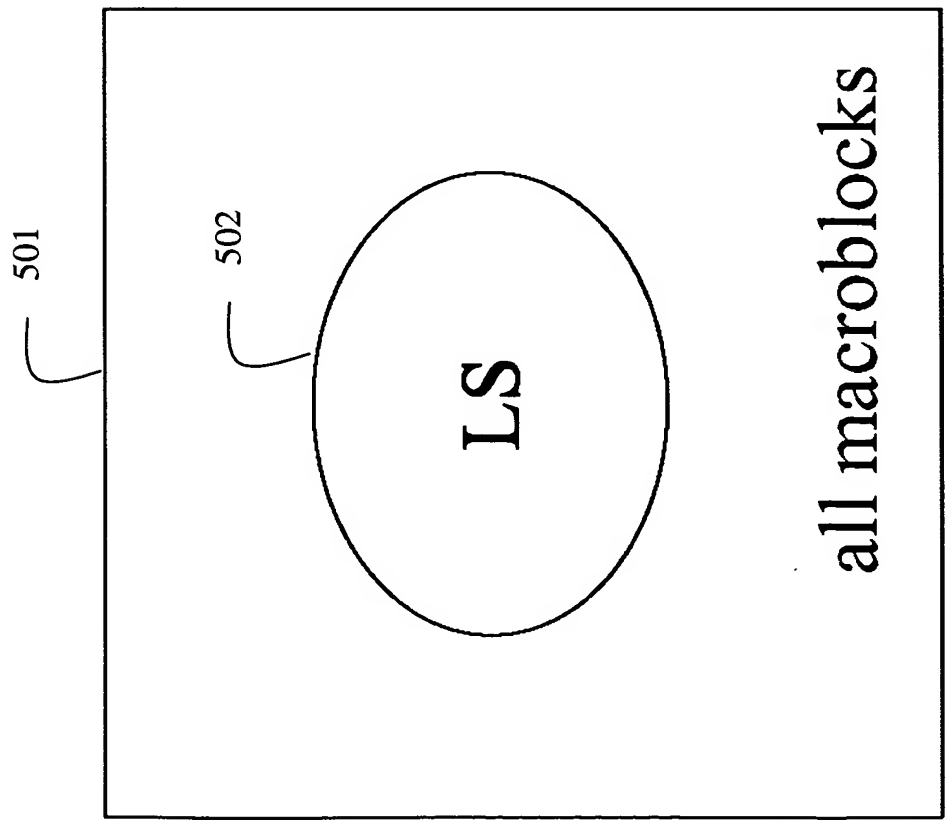

501
502
LS
all macroblocks

FIG. 5

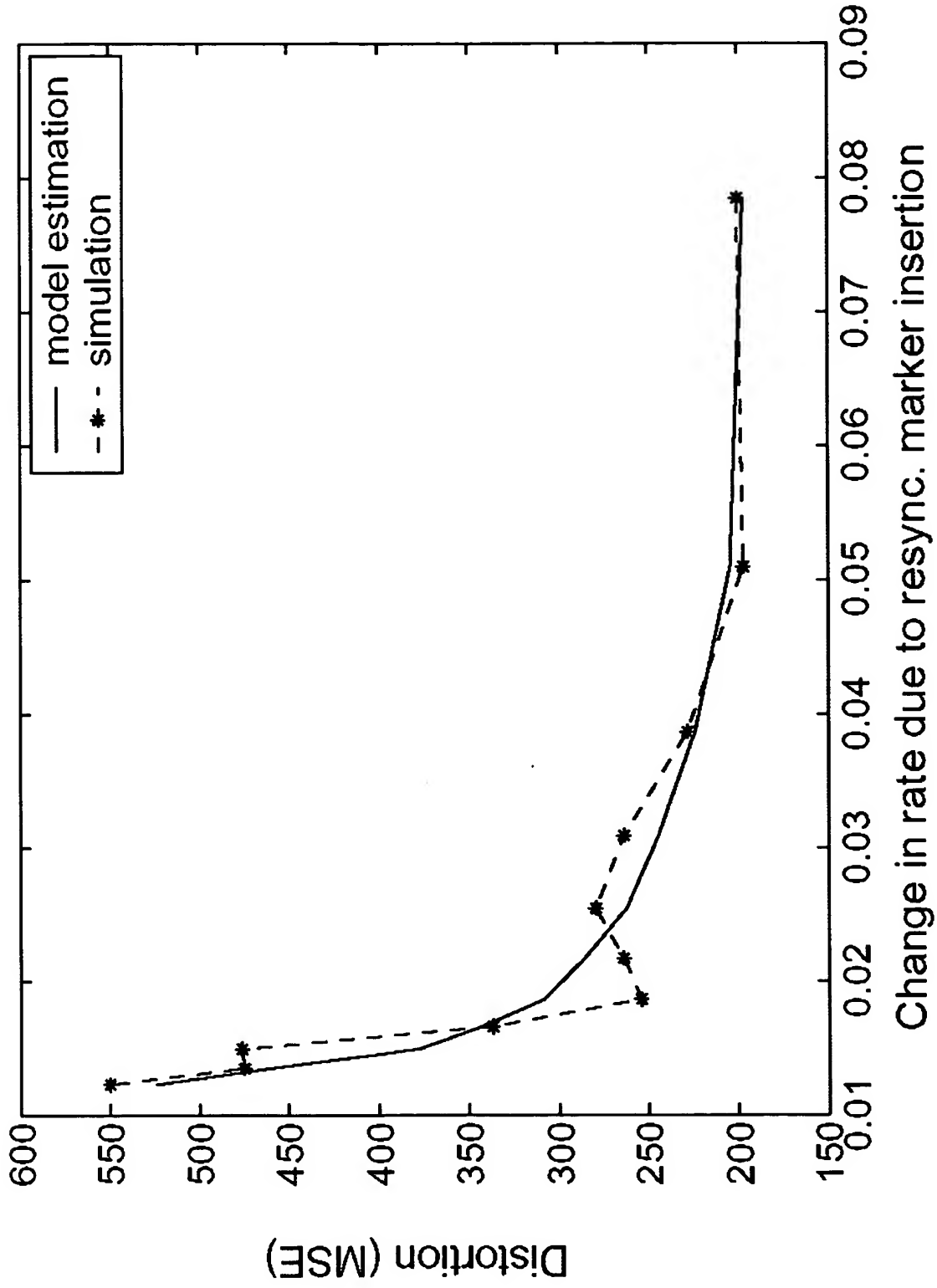

model estimation
simulation
Distortion (MSE)
600
550
500
450
400
350
300
250
200
150
0.01
0.02
0.03
0.04
0.05
0.06
0.07
0.08
0.09
Change in rate due to resync. marker insertion

FIG. 7

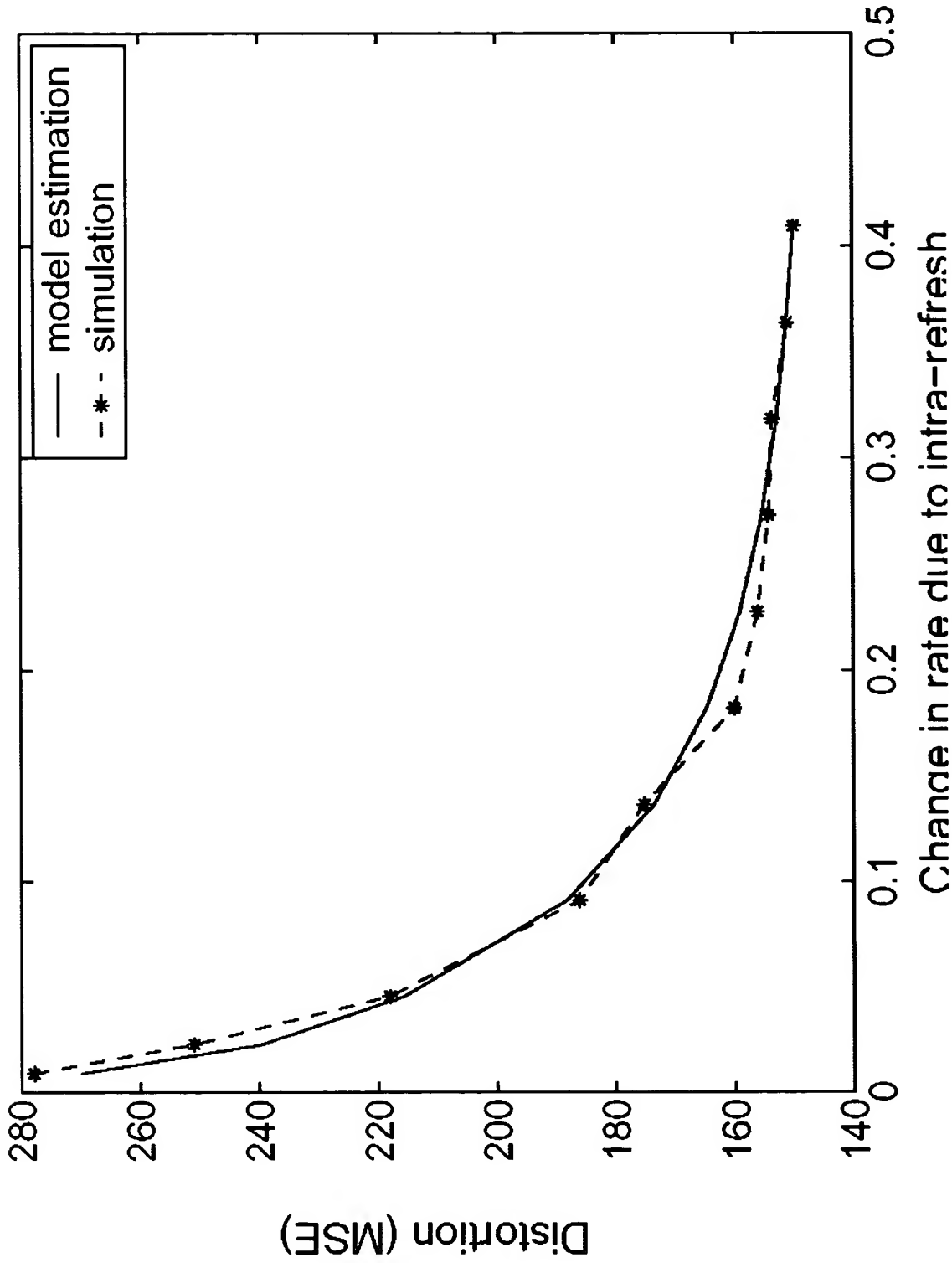

model estimation
simulation
Distortion (MSE)
Change in rate due to intra-refresh
280
260
240
220
200
180
160
140
0
0.1
0.2
0.3
0.4
0.5

FIG. 8